

DEPT. OF ECOLOGY
Received
SEP 08 2003
Yakima County
WATER CONSERVANCY BOARD
Application for Change/Transfer
Record of Decision

For Ecology Use Only	
Received:	Date Stamp
Reviewed by: _____	
Date Reviewed: _____	

Applicant: **LLOYD GARRETSON CO.**


Application Number: **YAKI-52-2002**

This record of decision was made by a majority of the board at an open public meeting of YAKIMA COUNTY Water Conservancy Board held on September 3, 2003.

☒ **Approval:** The Yakima County Water Conservancy Board hereby **grants** conditional approval for the water right change described and conditioned within the Report of Examination on September 3, 2003 and submits this record of decision and report of examination to the Department of Ecology for final review.

☐ **Denial:** The (board name) Water Conservancy Board hereby **denies** conditional approval for the water right transfer as described within the report of examination on (date report of exam was signed) and submits this record of decision to the Department of Ecology for final review.


Signed:



Steve Pickett, Chair
Yakima County Water Conservancy Board

Date: September 3, 2003


Approve ☒
Deny ☐
Abstain ☐
Recuse ☐
Other ☐



Duane Calvin, Member
Yakima County Water Conservancy Board

Date: September 3, 2003

Approve ☒
Deny ☐
Abstain ☐
Recuse ☐
Other ☐




Jeff Stevens, Member
Yakima County Water Conservancy Board

Date: September 3, 2003

Approve ☒
Deny ☐
Abstain ☐
Recuse ☐
Other ☐

Mailed, via certified mail, to the Department of Ecology, Central Regional Office, and other interested parties on September 4, 2003.



Sylvia Cervantes, Clerk of the Board

Yakima County
WATER CONSERVANCY BOARD
Application for Change/Transfer
Report of Examination
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

☒ Surface Water☐ Ground Water

DATE APPLICATION RECEIVED July 16, 2002	PERMIT NUMBER	CERTIFICATE NUMBER S4-09-278ALJ	CHANGE APPLICATION NUMBER
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NAME Lloyd Garretson Co.			
ADDRESS (STREET) 1701 Garretson Lane	(CITY) Yakima	(STATE) WA	(ZIP CODE) 98908

Changes Proposed:

☐ Point of Diversion/Withdrawal☐ Place of Use☒ Purpose☐ Temporary☒ Other

DECISION HISTORICAL SUMMARY

Existing Use						Proposed Use					
QUANTITY, TYPE OF USE, PERIOD OF USE .1 cfs for irrigation (April-Sept) & warehouse cooling (Sept-May). The certificate allows irrigation from April-Oct. Actual use has included irrigation and warehouse cooling (Sept- May) since the early 20s. Alexander Decree Certificate 278 is used together with Certificate 290 (.2cfs) to irrigate the land awarded a right in the Acquavella Adjudication under Ct. Cl. No. 01592. Together, Certs 278 & 290 were the basis for the .3 cfs awarded to the Lloyd Garretson Co. A portion of the .1 csf from Cert. 278 is sought to be changed by this application						QUANTITY, TYPE OF USE, PERIOD OF USE .1 cfs from Cert. 278 is to be divided between irrigation & warehouse cooling. Cert. 278 allowed irrigation of 5 acre. 2 acres remain under irrigation. The water attributed to the remaining 3 acres has been used for warehouse cooling for over 80 years. The amount proposed for change is 3/5ths of the right in Cert. 278. (.06 cfs and 14.19 AF) The applicant also proposes a change in the season of use to allow the warehouse cooling to occur between September 15 and May 15.					
Point of Diversion or Withdrawal						Point of Diversion or Withdrawal					
SOURCE WATER) Cowiche Creek			TRIBUTARY OF (IF SURFACE WATER) Naches River			SOURCE WATER) Cowiche Creek			TRIBUTARY OF (IF SURFACE WATER) Naches River		
NO. 181309-34013	¼ NE1/4	¼ SW1/4	SECTION 9	TOWNSHIP 13 N.	RANGE, 18	NO. 181309-34013	¼ NE1/4	¼ SW1/4	SECTION 9	TOWNSHIP N. 13	RANGE, 18
Place of Use						Place of Use					
LEGAL DESCRIPTION OF LANDS WHEREWATER IS PRESENTLY USED:) 181309-42004-42021						LEGAL DESCRIPTION OF LANDS WHERE NEW USE IS PROPOSED 181309-42004-42021					
NO.	¼ NW1/4	¼ SE1/4	SECTION 9	TOWNSHIP N. 13	RANGE, 18	NO.	¼ NW1/4	¼ SE1/4	SECTION 9	TOWNSHIP N. 13	RANGE, (18

SEPA

The board has reviewed the provisions of the State Environmental Policy Act of 1971, Chapter 43.21C RCW and the SEPA rules, chapter 197-11 WAC and has determined the application is: ☒ Exempt ☐ Not exempt

BOARD’S TENTATIVE DETERMINATION

Water Right Priority Date: 1869

MAXIMUM CUB FT/ SECOND .1	MAXIMUM GAL/MINUTE 44.8	MAXIMUM ACRE-FT/YR 23.65	TYPE OF USE, PERIOD OF USE Irrigation from April–Oct. (.04 cfs) & warehouse cooling from Sept. 15-May 15 (.06 cfs)			
SOURCE Cowiche Creek			TRIBUTARY OF (IF SURFACE WATER) Naches River/Yakima River			
AT A POINT LOCATED: PARCEL NO. 181309-34013	¼ NE1/4	¼ SW1/4	SECTION 9	TOWNSHIP N. 13	RANGE 18	WRIA 39 COUNTY. Yakima
LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED 3.3 acres lying SW of West Powerhouse Road, SE of Naches Heights Road and NW of Cowiche Creek and 2 acres North of Cowiche Creek, SW of SR-12 and NE of West Powerhouse Road						
PARCEL NO. 181309-42021/42004	¼ NW1/4	¼ SE1/4	SECTION 9	TOWNSHIP N. 13	RANGE, 18	

DESCRIPTION OF PROPOSED WORKS

The diversion works presently exist at the point of diversion described above and include a diversion dam across Cowiche Creek about 2 feet in height with a cement pipeline header box. An outflow skirt is protected with cement chunks and large boulders. The header box is equipped with a fish screen designed and installed by the Dept. of Fish & Wildlife in 1998. A distribution box, for the combined Certificate No. 278 and 290 water, separates the warehouse water from the irrigation water and allows for distribution to the orchard, the warehouse and back to the creek. A six inch PVC pipe, supported by an I beam foot bridge, takes water across the creek to the warehouse. The water enters the warehouse at a 400 gal. settling basin. An overflow (6" PVC) immediately carries excess water back to the creek. No water is consumed during the process of cooling the compressors. (See photo # 8a-8b) The cooling is accomplished in a closed pipe system. All water from this process is returned to the creek. The only consumptive use is by evaporation in a BAC™ ammonia condensing tower. (See photo # 9), the function of which is to liquefy the gaseous ammonia before its return to a storage tank. The rate of evaporation is between 3 and 4.35 gpm. All other water returns to Cowiche Creek within minutes of diversion.

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE: Done, except meter installation when determined by DOE and plumbing modifications if determined to be necessary by DOE.	COMPLETE PROJECT BY THIS DATE: One year from initiation of metering requirement and an additional year for plumbing modifications if determined to be necessary by DOE, from the date of notification of the applicant that such modifications are necessary.	COMPLETE CHANGE AND PUT WATER TO FULL USE BY THIS DATE: Done, except for installation of meters as determined by DOE and incorporation of plumbing modifications if found to be necessary.
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REPORT

See WAC 173-153-130 - The following sections may be expanded onto additional pages.

BACKGROUND

Water was first put to beneficial use in 1869 for irrigation of pasture. The right was confirmed in the Cowiche Creek Adjudication in 1922 and was awarded Certificate No. 278 for 0.10 cfs from April 1 to November 1 for the irrigation of 5 acres on land which is now Yakima County parcels 181309-42021 & 42004 and was given a priority date of 1869. Water was continuously used for irrigation of pasture and then orchard until a warehouse was constructed on a portion of the ground around 1917. A portion of the water was then put to use for cooling condensers and later in an evaporation tower. That use, as well as irrigation of the orchard on the remaining portion of the land, continued uninterrupted to the present day.

It was not until the water user received and read the *Report of the Referee* in the Aquavella Adjudication that it learned of the need to seek a change in its certificate to conform its water right to its long standing uses. The *Report of the Referee* in the Aquavella Adjudication recognized the historical beneficial use of the water right by the applicant.

An Alexander Decree right, having Certificate No. 290 is applicable to 11.33 acres directly east of Cowiche Creek from the subject land. Certificate 290 allows .2 cfs on that 11.33 acres. The *Acquavella Report of the Court* for Subbasin 18 awarded both the .1 cfs from Certificate 278 and .2 cfs from Certificate 290 to the combined parcels now owned by the Lloyd Garretson Co. The maximum annual quantity awarded in the *Report of the Court* for the lands described in Court Claim No. 01592 was 47.33 acre feet per year, for irrigation of 10 acres or 4.73 AF/AC. The maximum quantity awarded under Cert. 278 was 42.4 AF. (.1x 1.9835 x 214) Five acres @ 4.73 AF/AC equal 23.65 AF. Therefore, the extention of the per acre amount awarded by the court to the number of acres in Cert. 278 no longer irrigated would equal 14.2 AF, an amount well within the Certificate maximum.

The water users evidence of use in the warehouse is as follows. Water is introduced into the warehouse as described in the diversion works section above. An estimated twenty-five (25) gal/min is diverted into the warehouse, run through the cooling system and returned to the source within minutes of its diversion, except for a maximum of 4.35 gal/min. (4.67 ac-ft/season) which is lost to evaporation.

The water user's water right from Certificate 278 is .1 cfs for 214 days. The claimant's testimony at the evidentiary hearing for subbasin 18 was such that the referee allowed 47.33 AF for the combined 278 & 290 rights. That amount of water has been put to beneficial use on 10 acres of orchard for many years in excess of the number of years required to escape a claim of abandonment or relinquishment. Warehouse use has occurred every year since the warehouse was built in 1917. Pasture or orchard

irrigation and frost control have occurred every year since prior to the Alexander Adjudication in 1922. Both Alexander Certificates state water use since 1869, the priority date given to each. All of this is without any period of non-use putting the right at risk of abandonment or relinquishment.

Testimony at the evidentiary hearing, as summarized in the *Report of the Referee, Subbasin 18*, clearly supported a use of the water for irrigation on 10 acres of orchard and an additional amount used as warehouse cooling water, a part of which was consumptively used in the warehouse evaporation system. The consumptive use portion is as stated elsewhere herein.

COMMENTS AND PROTESTS

After proper publication, as is evidenced in the file, the Board received no comments or protests. The public notice clearly stated the applicant's intent to change not only the purpose of use, but also the period of use to allow year around use of water for cooling within the parameters of the water right. At the public hearing on August 13, 2003, there were no adverse witnesses or comments. The objections of the Department of Ecology have been resolved.

INVESTIGATION

The board investigated the applicant's place of use and found it to conform to the description stated in the application and to evidence presented at the public hearing. The board saw evidence of use of irrigation water on the applicant's orchard as well as use in the warehouse which appeared to be its stated age. The cooling equipment appeared to be as stated by the applicant. The return of un-evaporated water to the source was confirmed.

There appears to be no reason to disbelieve the applicant's statement of the amount of water consumptively used and the amount of water returned to the source. Applying known calculations to the reasonable use quantities stated by the applicant, the following quantities can be found. The Board finds the uses to be reasonable and supported by sufficient evidence.

The Acquavella Court has allowed .3 cfs and 47.33 AF annually for 10 acres irrigated under the combined Certificate 278 & 290 rights. The court also indicated that the warehouse cooling use would support an additional amount if a change in use was approved by the conservancy board or Ecology. The court found 4.73 AF/AC of water to be a reasonable and historic beneficial use of that portion of the Certificate 278 water right used for irrigation. The non-consumptive portion of the claimant's use will be returned to the source within minutes of its diversion.

The consumptive use portion of the warehouse cooling use is up to 4.35 gal/min. which equals 4.11 AF @ 214 days (the number of days in the certificate) and 4.67 AF @ 243 days (the number of days historically used for cooling from September 15 – May 15).

The amount sought to be transferred to warehouse cooling is that portion which would have been used on 3 of the 5 acres awarded a right in Cert. 278. Total use for that 3 acres would have been 4.73 ac-ft/acre or 14.2 ac-ft during the time period required to be examined to determine beneficial use and Annual Consumptive Quantity (ACQ) pursuant to RCW 90.03.380.

Pursuant to RCW 90.03.380, the applicant is required to show that the requested change results in no increase in the annual consumptive quantity (ACQ) of water used under the water right. ACQ means the "estimated or actual amount of water diverted pursuant to the water right, reduced by the estimated annual amount of return flows, averaged over the two years of greatest use within the most recent five-years period of continuous beneficial use of the water right." Since the applicant's water use is not measured, it is necessary to estimate by use of recognized use quantities.

From 1998 to 2002, Certificate No. 278 has been used continuously for irrigation, frost protection and industrial use. Based on the evidence provided in the record, there is sufficient data to estimate the ACQ. The following discussion will develop estimates for consumptive irrigation use, consumptive frost protection use and consumptive industrial use within this five-year period.

The Acquavella Referee recommended 47.33 acre-feet (ac-ft) between Certificate No's. 278 and 290 for irrigation of 10 acres including frost protection (5.17 ac-ft), and absent a RCW 90.03.380 change in purpose for the industrial use associated with Certificate No. 278, no industrial use be awarded. The Court indicated that should Ecology or the Board determine that an industrial change in purpose was appropriate, it may be able to confirm such a right for Certificate No. 278 in addition to that recommended for irrigation. The court did not allocate the award between the two certificates.

Based on a review of aerial photography, irrigation use under Certificate No. 278 had dropped from the 5 acres confirmed in the Alexander Decree to approximately 2 acres by 1947, and has remained relatively constant ever since. Similarly, by 1947 irrigation under Certificate No. 290 had dropped from 11.3 acres to a relatively constant 8 acres. Therefore, based on this proportion of acres, as the Referee appears to have done, the tentative determination of Certificate No. 290 would be 0.2 cubic feet per second (cfs) and 37.86 ac-ft for irrigation and frost protection of 8 acres. The tentative determination of Certificate No. 278 would be 9.46 ac-ft for irrigation and frost protection of 2 acres (*plus the unconfirmed industrial portion*).

CONCLUSIONS

1. The unconfirmed industrial portion cannot be greater than the 3 acres of irrigation *originally perfected* under Certificate No. 278 that are no longer in use. Based on the Court's use of 4.73 ac-ft per acre, the annual industrial use cannot exceed 14.2 ac-ft.
2. The applicant testified to diverting approximately 25 gallons per minute (gpm) continuously for 214 days [23.64 ac-ft] of which, the amount not consumed by evaporation is returned within minutes of the diversion to the creek on applicant's property. The extent of a right is measured by diversion from the head gate. Therefore the current industrial use of 25 gpm for 214 days or approximately 23.64 ac-ft exceeds the *current* annual quantity of irrigation water for acreage that has been removed from production applying the quantities used by the court in Acquavella. Using the Court awarded quantities, the extent and validity of Certificate No. 278 is 0.1 cfs (.02 cfs/ac) and 23.65 ac-ft (9.46 ac-ft + 14.2 ac-ft).
3. In order to prevent enlargement of Certificate No. 278, either the industrial flow must be reduced to a total annual diversion of 14.2 ac-ft or plumbing modifications must be made to allow reuse of all or a portion of the industrial water within the system. Unless otherwise restricted by the water right certificate, a water right holder may capture and reuse return water originally diverted pursuant to a water right for consumptive purposes.
4. The *Washington State Irrigation Guide* (WIG) reports a net irrigation requirement of 32.32 inches without cover and 42.42 inches with cover for apples at the Yakima monitoring station. Assuming an irrigation application efficiency of 65%, as is common in the Acquavella Adjudication, the beneficial use for irrigation of apples is approximately 4.2 – 5.4 ac-ft/acre. The Subbasin 19 (Lower Naches) report allows 4.5 ac-ft/ac as the relevant water duty. Lower Naches data is more comparable to the Garretson land than is the Cowiche Creek data, based on its location at the confluence of Cowiche Creek with the Lower Naches River.
5. **Irrigation Consumptive Quantity:** The consumptive portion (ACQ) of the water duty includes the crop irrigation requirement plus a small allowance for evaporative losses within the irrigation application efficiency, or at a minimum 3.1 ac-ft/acre. The frost protection component, based on the amount recommended in the Acquavella Adjudication, is .517 ac-ft/ac [5.17 ÷ 10 acres]. Assuming 25% of this frost water is lost to evaporation, .13 ac-ft/acre should be added to the consumptive portion. At 3.23 ac-ft/acre, the irrigation (consumptive) component of ACQ is 6.46 ac-ft for the 2 acres remaining under irrigation.
6. **Industrial Consumptive Quantity:** The applicant has provided manufacturer's data, [see below] showing that evaporative loss is as much as 4.35 gpm, or 4.67 ac-ft over 243 days (September 15 – May 15). Therefore, the industrial component of ACQ is 4.67 ac-ft and the total ACQ which the proposed change cannot exceed is 11.13 ac-ft.
 - a. Attached hereto is engineering data supplied by Baltimore Aircoil Company, the manufacturer of the cooling tower used by Garretson in its warehouse. The model owned by Garretson is VC1-205. The data sheet shows that model is rated at 145 tons of maximum refrigeration. At page 25 of the engineering data, it is reported that evaporation is 3 gpm per 100 tons of refrigeration. Therefore, the maximum evaporation, or consumptive use, is 4.35 gpm. [3 gpm x 1.45 = 4.35 gpm] The amount consumptively used over the cooling season equals 4.67 AF, [4.35 gpm x 60 = 261 x 24 = 6264 x 243 = 1,522,152 ÷ 325,850 gal. = 4.67 AF/Yr.] an amount which does not exceed the consumptive use limit determined from either of the “Annual Consumptive Quantity” calculations included herein.
7. The applicant proposes to continue historic irrigation (2 acres) within the authorized place of use from April – October and continue warehouse cooling for 243 days from September 15 – May 15.

8. The applicant is one of the last diverters from Cowiche Creek, which flows into the Naches River within 1/2 mile of the applicant's diversion. There are no uses claimed by others in the last 1/2 mile outside of the irrigation season. There are no adverse impacts on any other water use or user. There will be a beneficial impact by diverting a portion of the claimant's water over the cooling/storage season rather than just during the irrigation season.
9. The applicant has a current, valid water right as described in State Certificate 278. Beneficial use of water under the right has been continuous, so as not to invoke the risk of abandonment or relinquishment, as has been established in the Acquavella Adjudication. The applicant's proposed changes in purpose and period of the year will have no adverse impacts on any other water user or the public. The proposed change to a longer period of use may have a beneficial impact upon the availability of water during the irrigation season.
10. That the requested change results in no increase in the annual consumptive quantity (ACQ) of water used under the water right.
11. A place of use analysis is not necessary because the proposed new use will occur in the same place as the old use and within the same 1/4, 1/4 of Section 9 as allowed on Certificate 278.

The proposed water right change is exempt from SEPA pursuant to WAC 197-11-800(4).

RECOMMENDATIONS

It is recommended that the applicant's request for change of water right be granted upon the following conditions.

1. That the *change in purpose* to allow an additional use to conform to the applicant's historic use of a portion of its water for warehouse cooling be granted and be stated as follows: Irrigation of 2 acres from April 1 through November 1 and Warehouse cooling from September 15 through May 15.
2. That the *total diversion* allowed under the right derived from Certificate 278 is limited as follows: .04 cfs and 9.46 ac-ft from April 1 to November 1 for irrigation of 2 acres and .06 cfs and 14.2 ac-ft from September 15 to May 15 for warehouse cooling (industrial use).
3. That the *season of use* be changed to conform the certificate to the long-standing beneficial uses to which the applicant has historically put the water. The applicant's requested season of use for warehouse cooling from September 15 – May 15 should be allowed. The April 1 – October 31 season for irrigation should be continued.
4. In order to prevent enlargement of Certificate No. 278, the industrial use diversion must be limited to a total annual diversion of 14.2 ac-ft or plumbing modifications must be made to allow reuse of that portion of the industrial water within the system as is necessary to reach the limit imposed .

PROVISIONS AND CONDITIONS

1. That the applicant's total use, for all allowed purposes of use and times of use be limited to the amount established in Certificate 278 and the Acquavella Adjudication.
2. That the applicant be required to measure its water use at whatever points are necessary within its system to ensure compliance with the total annual limit. The following measuring points should be considered.
 - a. That a measuring device be installed at the applicant's head gate on Cowiche Creek to measure all water diverted for all purposes under the right.
 - b. That the water diverted under the warehouse cooling use be measured at the location where the water is pumped into the cooling system and after excess water is returned from the collection box to Cowiche Creek.
 - c. That all return flow be measured.

Continued

3. That in the event it is determined by the measurement provisions recommended herein that the total diversion allowed for industrial use is exceeded, the applicant should be required to implement the plumbing modifications referred to herein above as directed by the Department of Ecology.

Signed at Yakima, Washington

This _____ day of August, 2003

Steve Pickett, Chair
Yakima County Water Conservancy Board

For attachments not included or for more information please contact:

Daniel R. Haller, P.E.
Water Resources Program
Department of Ecology, Central Region Office
15 W Yakima Ave, Suite 200
Yakima, WA 98902-3452
(509) 454-4255 phone
(509) 575-2809 fax
dhal461@ecy.wa.gov